PLANAR PARALLEL ROBOT MECHANISM WITH TWO TRANSLATIONAL DEGREES OF FREEDOM

BACKGROUND

1. *Field of the Invention*

The present invention relates to a translational parallel robot mechanism of the type typically referred to as a pick and place robot.

2. *Description of the Related Art*

Pick and place robot mechanisms are typically utilized in light industries, such as the electronics industry and packaging industries, where such robotic mechanisms are required for accurate repetitive performance of simple operations that occur many times over. Such an operation may, for example, involve the repeated picking up of items at a first location with a gripping mechanism, moving a gripped item to a second location, and releasing said item at the second location. The gripping mechanism is typically mounted to a movable platform.

In order to meet performance criteria that are typically required of a robot mechanism of this type, one requirement may be that the platform is moved at a relatively high speed with two degrees of freedom in a movement plane without altering the posture of platform. Optionally the mechanism as a whole may also move in a relatively slow or stepwise manner and in a direction normal to the movement plane of the platform. Conventional robotic arm assemblies have difficulty in meeting these requirements with precision of movement and may lack synchronicity of movement due to different drive mechanisms being in place to accomplish these goals.

SUMMARY

The present robotic mechanism overcomes the problems outlined above and advances the art by facilitating additional range of motion including at least two